

REMARKS:

The Office Action dated May 16, 2005, has been carefully considered. In response thereto, the present paper is submitted. In view of this paper and, in particular, the arguments presented below, it is believed that the application is in condition for allowance. Accordingly, reconsideration and withdrawal of the outstanding rejections and issuance a Notice of Allowance is respectfully requested.

Summary of the Office Action

Claims 1-11, 13-19, 22-24, 26, 27, 29, and 30 are pending in the application. Claims 1, 13, 22, and 26 are the only independent claims.

In the Office Action, the Examiner has rejected claims 1-11, 15-19, 22-24, 26, 27, 29, and 30 pursuant to 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,513,395 to *Jones* in view of the abstract and figure in Japanese laid-open patent No. JP5-122896 to *Hidetoshi* (previously, the Examiner had rejected those claims under § 103(a) over *Jones* in view of U.S. Patent No. 6,781,269 to *Shimada*). The Examiner has rejected claims 13 and 14 under § 103(a) as being unpatentable over the *Jones* patent in view of the *Hidetoshi* patent abstract as applied to claim 1 and further in view of U.S. Patent No. 4,379,598 to *Goldowsky* (previously, the Examiner had rejected those claims under § 103(a) over *Jones* in view of *Shimada* and *Goldowsky*).

The following remarks are believed to address each of those rejections.

The *Hidetoshi* Laid-Open Patent:

The English-language abstract of the Japanese *Hidetoshi* patent abstract contains only a very brief summary of the invention and a single figure depicting the invention. The *Shimada* patent, although not prior art itself with respect to the present invention, contains a detailed description of the invention disclosed in the *Hidetoshi* patent abstract. The *Shimada* patent describes the invention disclosed in the *Hidetoshi* patent abstract as a magnetic thrust bearing with two subassemblies that move relative to each other. Referring to the figure in the *Hidetoshi* patent abstract, it appears that the shaft 1 and discs 2a, 2b, and 11 rotate in the direction indicated by the arrow 3, while the stator assembly, consisting of coil supports 5a,

5b, and their respective coils, remains stationary. The relative balance of the current flowing through the respective coils of the stator appears to determine whether the discs (hence shaft) are displaced in one or the other longitudinal axis.

Rejection of Claims 1-11, 15-19, 22-24, 26, 27, 29, and 30:

As noted previously, the Examiner has rejected claims 1-11, 15-19, 22-24, 26, 27, 29, and 30 under § 103(a) as being unpatentable over the *Jones* patent in view of the *Hidetoshi* patent abstract. For the reasons noted below, the Examiner's rejection of those claims is respectfully traversed.

To establish a *prima facie* case of obviousness by combining prior art, there must be a showing of some motivation to combine the prior art to arrive at the claimed invention. See Akamai Techs, Inc. v. Cable & Wireless Internet Svs., Inc., 68 U.S.P.Q. 2d 1186, 1193 (Fed. Cir. 2003) ("when determining the patentability of a claimed invention which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.") (citations and internal quotations omitted); Ruiz v. A.B. Chance Co., 69 USPQ 2d 1686, 1690-91 (Fed. Cir. 2004) (finding motivation to combine two references proper where they each addressed precisely the same problem as the claimed invention).

With regard to independent claim 1, the Examiner contends that the *Jones* patent does not teach the at least one region of permanent magnetization being "predominantly axially magnetized," as recited in claim 1, but that the *Hidetoshi* patent abstract teaches at least one region of permanent magnetization that is predominantly axially magnetized (referring to element 4 in the figure in the *Hidetoshi* patent abstract). The Examiner contends that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the *Jones* patent to include a predominantly axially magnetized region of permanent magnetization as taught by the *Hidetoshi* patent abstract to "more effectively control position and enhance the measuring possibilities of the torque transducer."

In the *Hidetoshi* patent abstract and figure, the coils 4 are not permanent magnets. Moreover, there are no areas of permanent magnetization disclosed or suggested in the abstract or figure. Thus, contrary to the Examiner's contention, the *Hidetoshi* patent abstract does not disclose "a predominantly axially magnetized region of permanent magnetization."

Accordingly, a person of ordinary skill would not have been motivated to combine the *Jones* patent and the *Hidetoshi* patent abstract to arrive at the invention recited in claim 1.

Also, referring to the figure in the *Hidetoshi* patent abstract again, it appears that the assembly consisting of discs 2a, 2b, and 11 rotates freely with regard to the shaft 1, so there is no torque or force acting on the shaft 1 transmitted to the assembly. The magnetic fields that permeate through the disc structure assembly perform the function of movably biasing the structure location toward one axial direction or the other, but there is nothing in the disclosure to suggest that the properties of the magnetic field are measured or monitored in any way. Thus, the torque or force acting on the shaft 1 are not sensed or measured. Accordingly, a person of ordinary skill would not have been motivated to combine the *Jones* patent and the *Hidetoshi* patent abstract to arrive at the invention recited in claim 1, because the *Hidetoshi* patent abstract is directed to solving an entirely different problem than the present invention.

Accordingly, it is submitted that the Examiner has not established, with regard to claim 1, a *prima facie* case of obviousness based on the *Jones* patent and the *Hidetoshi* patent abstract. Since claims 2-12 and 15-19 depend from claim 1, it is submitted that the Examiner has not established a *prima facie* case of obviousness with respect to those claims either. Reconsideration and withdrawal of the § 103(a) rejection of claims 1-12 and 15-19 is respectfully requested.

It is submitted that the same arguments apply with regard to independent claim 22, which also recites the “predominantly axially magnetised” language like in claim 1. Accordingly, reconsideration and withdrawal of the § 103(a) rejection of claim 22, and claims 23 and 24 which depend from claim 22, is respectfully requested.

It is also submitted that the same arguments apply with regard to independent claim 26, which also recites the “predominantly axially magnetised” language like in claim 1. Accordingly, reconsideration and withdrawal of the § 103(a) rejection of claim 26, and claims 27, 29, and 30 which depend from claim 26, is respectfully requested.

Rejection of Claims 13 and 14:

The Examiner has rejected claims 13 and 14 under § 103(a) as being unpatentable over the *Jones* patent in view of the *Hidetoshi* patent abstract as applied to claim 1 and

further in view of the *Goldowsky* patent. For the reasons noted below, the Examiner's rejection of those claims is respectfully traversed.

The Examiner contends that the combination of the *Jones* patent and the *Hidetoshi* patent abstract do not teach a single region of magnetization extending obliquely to an axis, as recited in claim 13, but that the *Goldowsky* patent teaches a single region of magnetization extending obliquely to an axis. The Examiner contends that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the *Jones* patent and the *Hidetoshi* patent abstract to include a single region of magnetization extending obliquely to an axis as taught by the *Goldowsky* patent to have larger diameters at one end than the other to resist axial forces (citing *Goldowsky*, col. 1, lines 35-40).

For the same reasons noted above, it is submitted that there is no motivation to combine the *Jones* patent and the *Hidetoshi* patent abstract to arrive at the invention recited in independent claim 13. In addition, it is submitted that a person of ordinary skill in the art would not have been motivated to combine the *Goldowsky* disclosure with the combination of the *Jones* patent and the *Hidetoshi* patent abstract for other reasons. For example, the *Goldowsky* patent teaches the use of permanent magnet rings in bearing systems; the magnetized region disclosed in the *Goldowsky* patent is not in a load path. Hence, there is no load or stress present that would serve to alter the magnetic field. The selection of the oblique angle is predicated on the desired ratio of axial vs. radial loading on the shaft, but that alone would not lead one skilled in the art at the time of the present invention to conclude that using an oblique angle would improve a torque sensor transfer function in a load- or force-transmitting system.

Accordingly, it is submitted that the Examiner has not established, with regard to claim 13, a *prima facie* case of obviousness based on the *Jones* patent, the *Hidetoshi* patent abstract, and the *Goldowsky* patent. Since claim 14 depend from claim 13, it is submitted that the Examiner has not established a *prima facie* case of obviousness with respect to that claim either. Reconsideration and withdrawal of the § 103(a) rejection of claims 13 and 14 is respectfully requested.